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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,966	02/21/2000	Rohit V Gaikward	1789-01910	1682
23505	7590	04/08/2005	EXAMINER	
CONLEY ROSE, P.C. P. O. BOX 3267 HOUSTON, TX 77253-3267			TIEU, BINH KIEN	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/510,966

Applicant(s)

GAIKWARD ET AL.

Examiner

BINH K. TIEU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,6-8 and 15-17 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,9,13,14 and 18 is/are rejected.
- 7) ☒ Claim(s) 10-12 and 19-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (U.S. Pat. #: 6,549,512).

Regarding claim 1, Wu et al. ("Wu") teaches a communication system, as shown in figure 5, that comprises:

- a subscriber modem (i.e., MTU-R);
- a central office modem (i.e., MTU-C, col.5, lines 1-3); and
- a communication channel coupled between the subscriber modem and the central office modem (i.e., see channel shown in figure 5) and configured to transport uplink signals from the subscriber modem to the central office modem, and further configured to transport

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downlink signals from the central office modem to the subscriber modem (col.5, lines 8-23 and col.9, line 62 through col.10, line 7),

wherein the power spectral density of the transmitted uplink signals is proportional to the power spectral density of the transmitted downlink signals (col.13, lines 10-48); and

wherein the power spectral density of the transmitted uplink signals is substantially unequal to the power spectral density of the transmitted downlink signals (i.e., PSD of upstream signal is 3dBm and downstream signal is -42dBm, etc.).

4. Claims 3-5, 9, 13-14 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Terry (U.S. Pat. #: 6,055,297).

Regarding claim 3, Terry teaches a communication system, as shown in figure 1 comprises:

a subscriber modem (i.e., customer modem 14 or 20);

a central office modem (i.e., C.O. modem 12 or 18; col.7, lines 52-64); and

a communication channel coupled between the subscriber modem and the central office modem (i.e., telephone line 10 or lines 16 and 22) and configured to transport uplink signals from the subscriber modem to the central office modem, and further configured to transport downlink signals from the central office modem to the subscriber modem (col.6, lines 20-38),

Wherein when the connection is initiated, frequency bands are allocated to the uplink and downlink power signals so that the total uplink and downlink capacity is maximized over the channel for predetermined uplink and downlink average signal power (col.5, lines 56-65);

wherein the predetermined uplink and downlink average powers are unequal (col.6, line 60 – col.7, line 19).

Regarding claims 4 and 13, Terry teaches a modem and a method for communicating over a communications channel with another modem, wherein the modem is configured to:

receiving an uplink signal having a transmitted uplink power spectral density (“PSD”) (i.e., each of modems 12 and 14 receiving transmitted signals from each other monitoring the power level of any signal this is received, col.6, lines 23-32); and

transmitting a downlink signal with a transmitted downlink PSD that is proportional to the transmitted uplink PSD (i.e., each of the modems 12 and 14 compares the monitored power spectrum and then adjusts the PSD for signal that it will transmit to the line 10, col.6, lines 39-51).

Regarding claims 5 and 14, Terry further teaches limitations of the claims in col.9, lines 39-51.

Regarding claims 9 and 18, Terry teaches a modem and a method for communicating over a communications channel between at least two modems, the modem and the method comprising features of:

jointly optimizing a transmitted uplink PSD and a transmitted downlink PSD to maximize a sum of uplink and downlink capacities subject to a predetermined average uplink power and a predetermined average downlink power, wherein the predetermined average uplink and downlink power are unequal (col.9, lines 39-51);

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receiving an uplink signal having the optimized transmitted uplink power spectral density ("PSD") (i.e., each of modems 12 and 14 receiving transmitted signals from each other monitoring the power level of any signal this is received, col.6, lines 23-32); and

transmitting a downlink signal with a transmitted downlink PSD (i.e., each of the modems 12 and 14 compares the monitored power spectrum and then adjusts the PSD for signal that it will transmit to the line 10, col.6, lines 39-51).

#### *Allowable Subject Matter*

5. Claims 2, 6-8 and 15-17 are allowed.
6. Claims 10-12 and 19-21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Van Bavel et al. (U.S. Pat. #: 6,101,172) teaches a PSD template for an HDSL2 transmission system comprising tables 1 and 2 containing substantially different values of upstream power and downstream power. The system transmits signals based on the tables 1 and 2.

Terry (U.S. Pat. #: 6,339,613) is continuation of the cited Terry Patent above.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh K. Tieu whose telephone number is (571) 272-7510 and E-mail address: BINH.TIEU@USPTO.GOV.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (571) 272-7499 and **IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or faxed to:

(703) 872-9314

A handwritten signature in black ink, appearing to read 'Binh Tieu', with a long horizontal flourish extending to the right.

**BINH TIEU  
PRIMARY EXAMINER**

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Date: April 02, 2005